

specification on page 6 at lines 5 to 9. Accordingly, it is believed that no new matter is introduced into the application as a result of these amendments, and that the scope of the claims remains unchanged thereby.

### **The Rejection under 35 U.S.C. § 102(b)**

Claims 30, 36, 48, and 50 stand rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 4,678,672, issued to Dartey et al. (hereinafter "Dartey"). Applicant respectfully requests that this rejection be withdrawn upon reconsideration for the reasons that follow.

It is well established that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987), cited in M.P.E.P. § 2131. Applicant respectfully submits that the cited reference does not set forth the invention identically as claimed.

Specifically, Applicant's independent claims 30 and 48, as amended herein, explicitly recite that the concentration range of polydextrose in the baking dough is "from 1 percent to 5 percent by weight, **based on the weight of the flour...**" *Emphasis added*. By contrast, the ranges cited in Dartey are based on the weight of the **cracker dough**. See Dartey at col. 8, ll. 51-55; *emphasis added*.

Simple arithmetic calculations suffice to demonstrate that Applicant's claimed ranges do not overlap with those set forth in Dartey. For example, Dartey describes a cracker dough comprising about 25 to about 85 weight percent of flour, and about 5 to about 20 weight percent of polydextrose. In a cracker dough comprising 5 weight percent polydextrose and 85 weight percent flour, the weight percent of polydextrose based on the weight of the flour is  $5 \div 85 \times 100 = 5.9\%$ . In a cracker dough comprising 20 weight percent polydextrose and 25 weight percent flour, the weight percent of polydextrose based on the weight of the flour is  $20 \div 25 \times 100 = 80\%$ . Thus, Dartey sets forth a concentration range for polydextrose of from 5.9 to 80 weight percent, **based on the weight of the flour**.

In this connection, Applicant has amended independent claims 30, 39, 48, and 56 herein to delete the word "about." Applicant believes that these amendments serve to further improve the clarity of the claims. In the newly amended independent claims, the recited ranges (1% to 5%) do not overlap with the range set forth in Dartey (5.9% to 80%). A basis for these amendments may be found in the specification on page 7 at lines 4 to 6, on page 15 at lines 15 to 17, and in the claims as originally filed,

*inter alia*. Accordingly, it is believed that no new matter is introduced into the application as a result of these amendments.

Because the concentration range of polydextrose set forth in Dartey does not overlap with the concentration ranges recited in claims 30 and 48 as amended herein, Dartey does not set forth Applicant's invention identically as claimed. Applicant therefore respectfully requests that the rejection of claims 30 and 48 under 35 U.S.C. § 102(b) citing Dartey be withdrawn upon reconsideration.

Claims 36 and 50 depend directly from newly amended independent claims 30 and 48. Because newly amended claims 30 and 48 are not anticipated by the cited reference, it follows by statute that claims 36 and 50 are also not anticipated. Accordingly, Applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 103(a) also be withdrawn upon reconsideration.

#### **The Rejections under 35 U.S.C. § 103(a)**

Claims 37, 38, 54, and 55 stand rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Dartey in view of an article from the Kirk-Othmer Encyclopedia of Chemical Technology, 4<sup>th</sup> Ed., Vol. 3, pp. 880-2 (John Wiley & Sons, New York, 1992) (hereinafter "the Encyclopedia"). This rejection is respectfully traversed and reconsideration is requested for the reasons set forth below.

Applicant respectfully submits that the claims as amended herein are not obvious over the cited references. With respect to the rejection over Dartey in view of the Encyclopedia, Applicant respectfully submits that the Official Action has not set forth a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure.

M.P.E.P. § 2143. As discussed above, however, Dartey does not set forth the concentration range of polydextrose specifically recited in newly amended independent claims 30 and 48. Nor does the Encyclopedia article contain this information. Therefore, the cited references do not teach or suggest all the claim limitations, and a *prima facie* case of the obviousness of newly amended independent claims 30 and 48 cannot be established based on these references.

Claims 37, 38, 54, and 55 depend, directly or indirectly, from newly amended independent claims 30 and 48. Because newly amended claims 30 and 48 are not obvious in light of the cited references, it follows by statute that claims 37, 38, 54, and 55 are also not obvious. Accordingly, Applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 103(a) be withdrawn upon reconsideration.

Claims 30-35, 37-39, 41-43, 45-49, 51-56, 58-59, and 61-63 have also been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Engelbrecht in view of the Encyclopedia and U.S. Patent No. 5,629,036, issued to Yanetani et al. (hereinafter "Yanetani"). This rejection is respectfully traversed and reconsideration is requested for the reasons, which follow.

Engelbrecht relates to a microwaveable bread product made from dough which may include flour, water, leavening agent, about 7 to about 15 percent by weight of shortening, based on the total weight of flour, and about 2.0 percent by weight of fiber, based on the total weight of the flour. Among the materials which are mentioned for use as fiber in the Engelbrecht patent are oat bran, wheat bran, soy polysaccharide, psyllium mucilloid, methyl cellulose, and polydextrose. See Engelbrecht, col. 3 ln 55-58. Further, Engelbrecht discloses that soluble fibers, and natural and synthetic fibers work equally well. See Engelbrecht, col. 3, ln 53-55.

At best Engelbrecht provides a broad, generic disclosure of a number of parameters (i.e., type of polydextrose, type of fiber, solubility of fiber, and amount of fiber and amount of flour), which could be potentially manipulated to arrive at something similar to the present invention, as claimed in the amended claims. Specifically, to arrive at the present invention in view of Engelbrecht, the skilled person would have to do the following:

- 1) Select water-soluble polydextrose as the fiber, and
- 2) determine that the water-soluble polydextrose should be used in an amount of 2-5% by weight, based on the flour weight, when Engelbrecht teaches that the fiber content should be 2-15% by weight, based on the flour weight and Engelbrecht contains no specific teaching of the amount that should be used when water-soluble polydextrose is selected to be the fiber.

The Examiner relies on a combination of Engelbrecht and Yanetani as rendering it obvious to add water-soluble polydextrose to bakery foods such as bread. However, Applicant respectfully submits that Yanetani teaches away from the use of polydextrose in bakery foods such as bread. In col. 1 at lines 58 to 61, Yanetani plainly states that "[i]n the case of adding low viscosity materials [such as water-soluble polydextrose to bread] ... volume of the product obtained is reduced eventually resulting

in a disadvantage of tastelessness.” As the Examiner noted in the Office Action, polydextrose is one of the low viscosity materials referred to by Yanetani at col. 1, lines 58-61, as can be seen from col. 1, lines 39-40 of Yanetani. That col. 1, lines 58 to 61 refers to addition of materials to bread is apparent from col. 1, lines 27-32 of Yanetani.

Applicant’s invention, however, as claimed in newly amended independent claims 30, 39, 48, and 56, explicitly recites polydextrose as a required ingredient in doughs used for baking breads and bread products. Therefore, Applicant respectfully submits that Yanetani has been improperly cited in this rejection since col. 1, lines 58-61 of Yanetani teach away from adding polydextrose to bread, since the expectation would be that this would result in the disadvantage of tastelessness.

It is well settled that, “[i]t is improper to combine references where the references teach away from their combination.” *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983), *cited in* M.P.E.P. § 2145. Thus, since Yanetani contradicts the teachings of Engelbrecht relied on by the Examiner, it is improper to combine Yanetani and Engelbrecht in the manner suggested by the Examiner. In fact, Yanetani makes it clear that the passing reference in Engelbrecht to use of polydextrose as a fiber in bread products, must refer to a form of polydextrose other than water-soluble polydextrose as claimed in the present application since Yanetani points out that there is a well-known disadvantage of employing water-soluble polydextrose in bread products, i.e. tastelessness.

Even assuming *arguendo* that Yanetani has been properly cited, Applicant respectfully submits that the Official Action has not set forth a *prima facie* case of obviousness, because the Engelbrecht, Yanetani, and Encyclopedia references in combination do not provide a reasonable expectation of the success of Applicant’s claimed invention for reducing staling. *See* M.P.E.P. § 2143, set forth in full above.

First, Applicant respectfully takes issue with the contention in the Official Action that anti-staling would occur in the bread set forth in Engelbrecht simply because “the same additive is used” in roughly the same amount. Official Action at page 3. Most importantly, it is not clear that the “same additive” is used in Engelbrecht because Engelbrecht could be referring to another form of polydextrose, such as water-insoluble polydextrose.

In addition, bread baked according to the teachings of Engelbrecht contains “critical levels of shortening” (Engelbrecht col. 2 at lines 54 to 62). Shortening is a well-known anti-staling additive. *See, e.g.*, the present specification at page 1 at lines 11 to 16. Thus, a skilled person reading Engelbrecht would conclude that the shortening is responsible for the anti-staling effect since

shortening is known to have this effect. Moreover, the Examiner has provided no teaching in any of the cited references that polydextrose has an anti-staling effect. Thus, the skilled person would have no basis for concluding that the polydextrose of Engelbrecht would provide an anti-staling effect since the skilled person has no way of knowing that polydextrose could have an anti-staling effect.

The present Applicant has surprisingly discovered that staling can be retarded by including polydextrose in a dough that otherwise need include only water, flour, and a leavening agent. Engelbrecht contains no teaching or suggestion to retard staling by the use of water-soluble polydextrose and, in fact, the only teaching regarding polydextrose in Engelbrecht is that it can be optionally added as a fiber. Therefore, there is no reasonable expectation for the success of Applicant's claimed invention based on Engelbrecht.

Second, Yanetani includes neither a teaching nor a suggestion regarding the retardation of staleness. Applicant's claimed invention is baked products having improved anti-staling properties, and methods of making baked products having improved anti-staling properties. Furthermore, Yanetani explicitly teaches that "[i]n the case of adding low viscosity materials [such as polydextrose to bread] ... volume of the product obtained is reduced eventually resulting in a disadvantage of tastelessness." As the Examiner noted in the Office Action, polydextrose is one of the low viscosity materials referred to by Yanetani at col. 1, lines 58-61, as can be seen from col. 1, lines 39-40 of Yanetani. Therefore, Applicant respectfully submits that Yanetani does not provide a reasonable expectation for the success of Applicant's claimed invention in providing an anti-staling effect. Moreover, Yanetani provides an expectation that addition of polydextrose will result in the disadvantage of tastelessness, thereby leading a skilled person away from employing polydextrose in a bread product for any reason.

Finally, as noted in the Official Action, the Encyclopedia provides background information suggesting that certain additives, such as enzymes and monoglycerides, may be included in bread dough for their known utilities. Again, there is no teaching or suggestion to use polydextrose for its anti-staling properties, as is explicitly required in newly amended independent claims 30, 39, 48, and 56, and therefore the Encyclopedia also does not provide a reasonable expectation of success.

In summary, Applicant respectfully submits that Yanetani, which teaches away from the claimed invention, cannot properly be cited in a rejection under 35 U.S.C. § 103. Applicant further respectfully submits that the cited references, taken in combination, provide no reasonable expectation for the success of Applicant's claimed invention. Applicant therefore respectfully requests that the

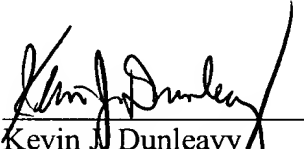
rejection of newly amended independent claims 30, 39, 48, and 56 under 35 U.S.C. § 103 be withdrawn upon reconsideration.

Claims 31 to 35, 37 to 38, 41 to 43, 45 to 47, 49, 51 to 55, 58, 59, and 61 to 63 depend, directly or indirectly, from newly amended independent claims 30, 39, 48, and 56. Because newly amended claims 30, 39, 48, and 56 are not obvious in light of the cited references, it follows by statute that claims 31 to 35, 37 to 38, 41 to 43, 45 to 47, 49, 51 to 55, 58, 59, and 61 to 63 are also not obvious. Accordingly, Applicant respectfully requests that the rejection of these claims under 35 U.S.C. § 103(a) also be withdrawn upon reconsideration.

### **Conclusion**

In view of the foregoing amendments and remarks, Applicants respectfully submit that all of the pending claims are in condition for allowance and respectfully request a favorable Office Action so indicating.

Respectfully submitted,

  
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Enclosures: Appendix Showing Marked-Up Version of Amendments

**APPENDIX SHOWING MARKED-UP VERSION OF AMENDMENTS****IN THE SPECIFICATION**

Page 7, lines 15-20:

In one embodiment, polydextrose is used in combination with emulsifier. Optionally, such an emulsifier can include glyceryl monostearate, mono-diglycerides, sodium stearyl lactylate and Datem (diacetyl tartaric esters of mono- and diglycerides). In another embodiment, polydextrose is used in combination with an enzyme or in combination with an enzyme and an emulsifier. Suitable enzymes could include bacterial and fungal amylases, pullulanase, amyloglucosidase, pentosanase, xylanase, and maltogenic  $\alpha$ -amylase.

**IN THE CLAIMS**

30. (Five Times Amended) A method of making a baked product having improved anti-staling properties, the method comprising the steps of:

forming a baking dough by combining flour, yeast, water, and water-soluble polydextrose anti-staling agent in an amount of from about 1 percent to about 5 percent by weight, based on the weight of the flour; and  
baking the dough.

33. (Amended) The method of claim 32 wherein said baking dough is prepared by means of a process selected from the group consisting of straight dough processes, sour dough processes, Chorleywood bread processes, and sponge and dough processes.

36. (Amended) The method of claim 30 wherein said baking dough further ~~includes~~ comprises fiber.

37. (Amended) The method of claim 30 wherein said baking dough further ~~includes~~ comprises one or more enzymes with anti-staling properties.

38. (Twice Amended) The method of claim 37 wherein said one or more enzymes are selected from the group consisting of amylase, pullulanase, amyloglucosidase, pentosanase, xylanase, and maltogenic  $\alpha$ -amylase.

39. (Four Times Amended) A method of making a baked bread product having improved anti-staling properties, the method comprising the steps of:

forming a bread dough by combining flour, a leavening agent, water, and water-soluble polydextrose anti-staling agent in an amount of from 1 percent to ~~about~~ 5 percent by weight, based on the weight of the flour; and  
baking the bread dough.

42. (Amended) The method of claim 41 wherein said bread dough is prepared by means of a process selected from the group consisting of straight dough processes, sour dough processes, Chorleywood bread processes, and sponge and dough processes.

45. (Twice Amended) The method of claim 39 wherein said bread dough ~~further includes~~ comprises a second anti-staling agent selected from the group consisting of glycerol monostearate, mono-diglycerides, sodium stearyl lactylate and Datem.

46. (Amended) The method of claim 39 wherein said bread dough ~~further includes~~ comprises one or more enzymes with anti-staling properties.

47. (Twice Amended) The method of claim 46 wherein said one or more enzymes are selected from the group consisting of amylase, pullulanase, amyloglucosidase, pentosanase, xylanase, and maltogenic ~~α~~-amylase.

48. (Five Times Amended) A baking dough used for making a baked product, the baking dough comprising:

flour, yeast, water, and water-soluble polydextrose anti-staling agent in an amount of from ~~about~~ 1 percent to ~~about~~ 5 percent by weight, based on the weight of the flour.

49. (Five Times Amended) The baking dough of claim 48 wherein said polydextrose is present in the baking dough at a level of about 2 percent to about 3 percent by weight, based on the weight of the flour.



50. (Amended) The baking dough of claim 48 ~~which wherein~~ said baking dough further including comprises fiber.

51. (Amended) The baking dough of claim 48 wherein said baked product is a bread.

52. (Amended) The baking dough of claim 48 wherein said baked product is a sweet baked product ~~containing~~ comprising at least one material selected from the group consisting of sweeteners or and sweetening agents.

53. (Amended) The ~~method~~ baking dough of claim 52 wherein said sweetening agents ~~include~~ comprise intense sweeteners.

54. (Amended) The baking dough of claim 48 further including one or more enzymes with anti-staling properties.

55. (Twice Amended) The baking dough of claim 54 wherein said one or more enzymes are selected from the group consisting of amylase, pullulanase, amyloglucosidase, pentosanase, xylanase, and maltogenic  ~~$\alpha$~~ -amylase.

56. (Four Times Amended) A bread dough used for making a baked bread product, the bread dough comprising:

flour, a leavening agent, water, and water-soluble polydextrose anti-staling agent in an amount of from ~~about~~ 1 percent to ~~about~~ 5 percent by weight, based on the weight of the flour.

58. (Twice Amended) The bread dough of claim 56 wherein said polydextrose is present in the bread dough in an amount of from about 2 percent to about 4 percent by weight, based on the weight of the flour.

59. (Three Times Amended) The bread dough of claim 56 wherein said polydextrose is present in the bread dough in an amount of from about 2 percent to about 3 percent by weight, based on the weight of the flour.

60. (Twice Amended) The bread dough of claim 59 wherein said bread dough further comprises fiber and wherein said polydextrose and fiber are present in a ratio of about 1:1 to about 5:1.

61. (Twice Amended) The ~~method~~ bread dough of claim 56 wherein said bread dough further ~~includes~~ comprises an second anti-staling agent selected from the group consisting of glycerol monostearate, mono-diglycerides, sodium stearyl lactylate and Datem.

62. (Amended) The ~~method~~ bread dough of claim 56 wherein said bread dough further ~~includes~~ comprises one or more enzymes with anti-staling properties.

63. (Twice Amended) The ~~method~~ bread dough of claim 62 wherein said one or more enzymes are selected from the group consisting of amylase, pullulanase, amyloglucosidase, pentosanase, xylanase, and maltogenic  $\alpha$ -amylase.